

NOVOMESSOR MANNI A SYNONYM OF  
*APHAENOGASTER ENSIFERA*  
(HYMENOPTERA: FORMICIDAE)<sup>1</sup>

William L. Brown, Jr.<sup>2</sup>

The genus *Novomessor* as it stands contains 3 species of rather large-sized but slender myrmicine ants living in arid and subarid parts of the southwestern United States and Mexico. The definitive treatment is the revision of Wheeler and Creighton (1934); later discussions of the taxonomy and distribution of *N. cockerelli* and *N. albisetosus* are to be found in Creighton (1950: 155-157; 1955) and of *N. manni* in Kanno (1954).

*Novomessor* was originally described as *Aphaenogaster*, and the habitus certainly recalls that genus; in fact, the characters supposed to distinguish the two genera are not very strong when one considers the whole world of fauna of this complex. The worker metanotal groove ("mesoepinotal suture") is obsolete or nearly so in *Novomessor*, but distinct in most *Aphaenogaster*; and the forewing venation of *Novomessor* is of the *Formica* pattern, with a single closed cubital cell, versus 2 closed cubital cells (or a single closed cubital cell with venation of the *Solenopsis* pattern) in *Aphaenogaster*.

The distinction is weak in the case of *N. albisetosus*, which shows a vestigial metanotal "suture", and it should be mentioned that the Japanese *A. osimensis* is well on the way to the sutureless condition. The group of *A. mutica*, *A. smithi*, and *A. boulderensis* also shows a tendency toward metanotal groove reduction. Wing venation similar to that of *Novomessor* is found in the Madagascan *A. swammerdami*, also a large ant, and one with nests having very large, rough, "rat-hole" type entrances like those of *Novomessor*.

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<sup>2</sup> Department of Entomology, New York State College of Agriculture and Life Sciences at Cornell University, Ithaca, New York 14850. Publication supported by U. S. National Science Foundation Grant GB-31662X.

(from personal observations made in central and western Madagascar in 1969). Wing venation is otherwise more variable among *Aphaenogaster* species than is generally realized; for example, *A. mariae* lacks r-m, at least in the queen, and *A. sagei* and all of the Australian species have only one cubital cell. The venation of less than half of the *Aphaenogaster* species is known at the present time.

The posteriorly drawn-out head of workers and some queens is supposed to characterize *Aphaenogaster* subgenera *Deromyrma* and *Planimyrma*, but all degrees of development of the character occur, from heads that are merely subconical behind, to those that are definitely petiolate. *Novomessor manni* also belongs to this series.

In fact the case of *N. manni* is a very instructive one, and I should like to make an important point about it. The point is that fuzzy generic and subgeneric distinctions lead to the same species being described more than once under different names in different genera or subgenera. This point is illustrated by the oft-named "*Ectomymrmex*" *brunoi* (Brown, 1963), by *Cerapachys jacobsoni* Forel = *Phyracaces vandermeermohri* Menozzi (Brown, ms.), and by many other cases that I shall document in detail in papers to come. Here I shall add the example of *Aphaenogaster ensifera* Forel (1899: 59) = *Novomessor manni* Wheeler and Creighton (1934), based upon my comparison of the types of the two species. (**New synonymy**). There is no more difference between these two samples than one would expect between workers from different nests of any single *Aphaenogaster* species.

We do not know the exact locality in Mexico whence came Forel's type; Kownowski (1954) speculated that, "it is possible that this ant is restricted to the arid scrub forest on the Pacific slope.... Thus, one might expect to find *manni* from northwestern Jalisco to Guerrero." This prediction has been fulfilled southward, at least, by the collection of a series of *A. ensifera* along Highway 95 about 50 km north of Acapulco in Guerrero (29 July, W. H. Gotwald, Jr. of the Cornell University Mexico Field Party of 1965), representing a considerable extension of the known range. I have already (Brown, 1973: 178 ff.) indicated the preliminary synonymy of *Novomessor* with *Aphaenogaster* s. lat., and the synonymy also of the *Aphaenogaster* subgenera under the latter

genus. In the present paper, I am defending only the synonymy, strictly speaking, of *Novomessor* with *Aphaenogaster* (*Deromyrma*) and *A. (Attomyrma)*. I believe that the formal synonymy of these and the subgenera *Aphaenogaster* s. str. (*S. Palearctic*), *Nystalomyrma* Australia-New Guinea) and *Planimyrra* (Melanesia) can be adequately justified, but this must be done in a broader revisionary frame of reference including consideration of other genera in subfamily Myrmicinae, and is reserved for a more extensive publication. Meanwhile, it seems to me, the example of *A. ensifera* and *N. manni* may help to alert myrmecologists to the kinds of changes to be expected of a worldwide reclassification.

One of the changes in status resulting from this study is of course the return of *cockerelli* and *albisetosus* to their original generic assignment in *Aphaenogaster*.

#### LITERATURE CITED

- Brown, W. L., Jr. 1963. Characters and synonymies among the genera of ants. Brev. Mus. Comp. Zool. 190:1-10.
- . 1973. A comparison of the Hylaeian and Congo-West African rain forest ant faunas. In *Tropical forest ecosystems in Africa and South America: A comparative review*. Eds. B. J. Meggers, E. S. Ayensu and W. D. Duckworth. Smithsonian Inst. Press, Washington, D. C. viii + 350 pp.
- Creighton, W. S. 1950. The ants of North America. Bull. Mus. Comp. Zool. Harv. 104:1-585, 57 pl.
- . 1955. Studies on the distribution of the genus *Novomessor* Hymenoptera: Formicidae). Psyche, Cambridge, Mass. 62:89-97.
- Forel, A. 1899. Insecta. Hymenoptera (Formicidae). Biologia Centrali-Americana 3:1-160, 4 pl.
- Kannowski, P. B. 1954. Notes on the ant *Novomessor manni* Wheeler and Creighton. Occas. Pap. Mus. Zool. Univ. Michigan 556:1-6.
- Wheeler, W. M. and W. S. Creighton. 1934. A study of the ant genera *Novomessor* and *Veromessor*. Proc. Amer. Acad. Arts. Sci., Boston, 69:341-387.

**ABSTRACT:**—*N. manni* and *A. ensifera* were found to represent the same species upon comparison of their types. This synonymy is presented as evidence that *Novomessor* must be included in *Aphaenogaster*, and variation in worker-queen head shape and wing venation of queens and males is cited among species currently placed in *Novomessor*, *Aphaenogaster* subgenus *Deromyrma* and *A.* subgenus *Attomyrma* in defense of the proposition that these 3 genus-level taxa cannot be separated taxonomically.—Brown, W. L., Jr. Department of Entomology, Cornell University, Ithaca, New York, 14850.

**Descriptors:** Myrmicinae, head, metanotal groove, wing venation, *Deromyrma*, *Attomyrma*.